

## CHAPTER 5

### DEFENSIVE DRIVING

#### ▶ Preventing accidents

Most accidents are caused by driver error. The error may be yours or the other driver's. You can reduce your chances of an accident by knowing and using the standard accident prevention formula:

- Be Alert.** Never think the other driver will not make a driving error.
- Be Prepared.** Learn what to do in any case when you have to act fast.
- Act In Time.** Try not to panic. Know what to do if something happens suddenly.

#### ▶ Distractions

According to the NJ State Police, in 1997 fatal accidents in the state were caused by inattentive driving (154), drunk driving (135), pedestrian negligence (120), disregard of stop signs (59) and traveling too fast for conditions (35). Inattentive drivers often tailgate, go too fast or drift out of their lanes. They ignore traffic signs and signals, road markings, potential traffic hazards, road conditions and other vehicles. Some causes of inattentive driving are:

- searching for a burning cigarette on the seat or floor;
- trying to fasten a safety belt while driving;
- reaching across the seat to close a door or look in the glove compartment;
- reaching for coins in pockets while driving up to a toll booth;
- trying to wind or adjust a wristwatch;
- watching children or pets in the car;
- trying to struggle out of a coat;

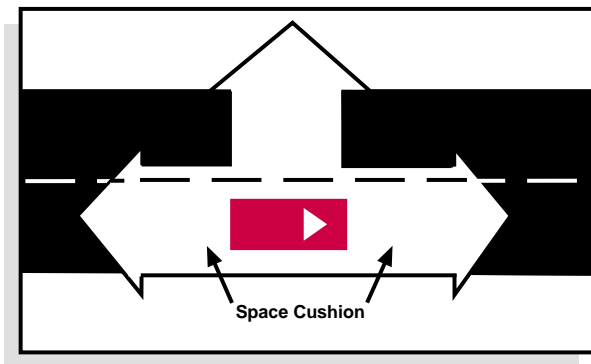
- reading maps and newspapers;
- eating while driving;
- adjusting a mirror while driving;
- using a cellular phone;
- changing the cassette or compact disc;
- shaving;
- using a laptop computer or fax machine;
- applying makeup.

Always try to avoid these and other types of distractions while driving.

A seat belt holds you comfortably in position as well as offering protection in the event of an accident. So always buckle up. It is the law in New Jersey.

## Keep a space cushion

To avoid a collision, you need as much time as possible to react. Try to keep plenty of space between your car and others on all sides. Stay in the middle of your lane. Make sure there is enough room ahead to stop or pass safely. The space between you and other vehicles gives you time to react in emergencies.



## Cellular phones and other technologies

The benefits of cellular phones and other technologies include summoning emergency medical service as needed; reporting hazardous road conditions or congestion to authorities; reporting mechanical difficulties as they occur; and deterring personal assault and robbery on the vehicle's occupants.

The problem of using cellular telephones, on-board navigation systems, portable fax machines and entertainment systems is the inattention and distraction created by the use of these items while driving, according to the U.S. Department of Transportation.

Drivers should focus on safety when using a cellular phone. You need to control your vehicle with both hands. Just pull over to the side of the road if you

have to dial or handle your cell phone. The cellular industry encourages the use of hands-free equipment in motor vehicles, the use of memory-dial capabilities and voice activation features to keep the driver's hands on the steering wheel.

## Communicating and driving

Talk to the other driver with all the signals you can use. Stay in the lane that shows where you intend to turn. Use your turn or hand signals to tell the other driver what you are going to do. If you have conventional disc and drum brakes, pump your brakes so that your taillights show you are slowing or stopping.

Get into the good habit of catching the other driver's eye. Use your horn to warn other drivers where you are. At night, a quick flick of your lights, from low to high beam and back can be helpful.

Be patient in town or city traffic. Try not to change your mind or act quickly. Try not to let rush-hour traffic get on your nerves. But do not depend on warnings or signals from other drivers. Rely on your alertness, not on theirs.

You need good judgment in stopping, starting and turning. Knowing traffic rules, signs, and signals helps.



## Adjusting to different roads

### City driving

A driver must handle many more driving tasks in city traffic. Even at slow speeds, heavy traffic means more things to watch for. In city traffic, try to cooperate with other drivers. Drive more slowly and watch for the movements of others. You also have to be more careful about pedestrians and less visible vehicles, such as bicycles, MOPEDs and motorcycles.

Try to develop the habit of looking at least 12 seconds ahead. This means that you should be able to see an object far enough ahead so that it takes you at least 12 seconds to get to it. While driving at 25 mph on a clear road in a city, you should be able to see about a block ahead.

When traffic is heavy, you need extra time to react. This means drive more slowly. By reducing your speed, you may gain time.

On city streets you may pass through intersections very often. Look ahead. Many new drivers fail to see intersections. Consider the following safety tips:

- If you are at the middle of a block, check intersections ahead for traffic controls.
- When approaching or nearing intersection, reduce speed. Glance left and then right. Keep your foot on the brake.
- When you are at crosswalks, your car should be at its lowest speed. Decide whether to stop or go across. Take quick glances around. If clear, proceed to cross.

Watch for uncontrolled intersections where there are no lights or signs. Do not think that a roadway is protected because it is wide, smooth or busy. If there

are no traffic signals, there is no traffic control. Avoiding accidents is up to you. Look. Listen. Think.

## Carbon monoxide

Carbon monoxide is a gas given off from a car's exhaust system. It may seep into a car if there are holes in the exhaust system. Your car may take in the gas from cars in a traffic jam. It may build up when the engine is running in closed spaces such as a garage. Because carbon monoxide gas does not have an odor, you can be affected without knowing it. The gas can make you sleepy. Early symptoms include: yawning, dizziness, and stomach upset. If you suspect carbon monoxide poisoning, get a supply of fresh air quickly.

There are several ways to avoid carbon monoxide. Have the exhaust system checked to be sure it does not leak. Do not idle the motor with all the windows closed. Do not warm up the motor while the car is in a closed garage.

## Highway hypnosis

When you are tired, you cannot drive well. It takes longer to decide what movement you want to make. You may get upset more easily. Also, you may fall asleep behind the wheel.

Expressway drivers are subject to "highway hypnosis." After long hours of driving, you feel trance-like with the sounds of the wind, tires and the hum of the engine dulling your senses. Here is what to do to keep from getting tired on a long trip.

- Rest before you start. Get a normal night's sleep.
- Do not take any drugs that can make you drowsy (even the night before you start).
- Do not drive long hours. Driving can be dangerous if you are tired and sleepy. Try not to drive late at night. Your body is used to going to sleep at that time. Set a common sense limit of 300 to 400 miles a day.
- Take rest stops at least every two hours, even if you are not tired.
- Switch off with another driver every hour or so. Stop for coffee or a soft drink every 100 miles or every two hours.

If you do all these things and still get sleepy, there are some tips that will help you stay alert.

- Keep shifting your eyes from one part of the road to another. Look at objects near and far, left and right.
- Try chewing gum or singing along with the radio.
- Roll your window down and get some fresh air.

If you find that nothing seems to help you stay awake, pull off the highway at the first rest stop. A short nap may refresh you.

## Highway driving

Traffic accidents and deaths can happen on the highways when the weather is good and the roads are dry. Nationally, speeding was a factor in 29 percent of the fatal crashes that occurred on dry roads in 1996, 32 percent of those that occurred on wet roads, 47 percent when there was snow or slush on the road and 54 percent on icy roads. Exceeding the posted speed limit or driving too fast for road conditions is one of the most prevalent factors contributing to traffic crashes.

Major highways are usually in good condition. They often have four or more lanes. Wide open spaces often give a driver the feeling that s/he can relax his or her attention. It is important to stay alert on highways. Not all highways may have traffic signs or signals at crossroads. This means you need to drive defensively and stay within the speed limit. Keep your eyes moving. Keep your mind alert. Always be ready to react to the unexpected.

## Turnpikes and parkways

When entering a turnpike or parkway, yield to traffic, then speed up to match traffic flow. Never slow down quickly in the traffic lane. Do not stop. Never back up. If you miss an exit, go on to the next one. In case of mechanical breakdown, pull off the road. Raise the hood. Put on your emergency flashing lights. Set out flares if you have them. Tie a white cloth to your antenna or door handle to signal for help.

When passing or changing lanes, use your turn signals. Check for clearance. After passing, make sure you are far enough ahead before turning back into your lane. Check your rearview mirrors and make sure your turn signal is turned off after completing the maneuver.

Read the signs. They are all important. You have little chance for secondguessing. When leaving the road, slow down to the speed posted on the advisory sign in the exit lane. Believe your speedometer, not your senses.

## Secondary roads

The dangers of a road depend on how you try to drive on it. The fact that a road is paved does not always mean that it was designed for heavy traffic. Farm-to-market type roads were built for local travel, and not as main highways. On these roads, hills are likely to be steeper and curves sharper. Sign distances are often very short. On secondary roads, drive slower than you would on primary highways.

## Curves

Slow down before you get to a curve in the road. Your car will tend to keep going straight. You will have to adjust your steering. This is easier when driving slowly. On right hand curves, do not drift into the other lane. On left hand curves, watch for other vehicles drifting into your lane. Once in a curve, maintain a steady speed.

## Hills, bridges and other road hazards

Be on the lookout for signs that warn of road hazards. These include: hills, dips, narrow bridges, bumps and railroad tracks. Drive slowly in these areas. If you are going too fast you may not be able to slow down in time. Speeding and applying the brakes hard can cause a skid or a spin.

Be careful in farm country or in open land where livestock or deer may cross the road. Slow down until you have passed an animal. You never know for sure what movement an animal will make.

## Construction zones

Most drivers will encounter construction on roadways. Work zones are identified by an advance warning sign or flashing lights on a vehicle up to one-half mile before the work area. Flaggers may control traffic and protect project personnel in the work area. Sometimes it's necessary to redirect traffic from its normal path around the work zone. Drivers may encounter a detour onto another roadway to bypass the work area or a diversion onto a temporary roadway, such as a median crossover or a lane shift. If traffic is permitted through or adjacent to the work area, it will be guided with temporary traffic control devices. At the end of the work area, there's an End Road Work sign or the last temporary traffic control device, so motorists can resume normal driving. For illustrations of signs and barricades used in construction zones, see pp. 113 and 114. In New Jersey, traffic fines are doubled for motor vehicle violations committed in the area of roadway construction zones. Details on violations and fines are on p. 68.



## Changing lanes and passing

Using the proper lane is important in defensive driving. Do not straddle a lane. Be alert to traffic behind. When you must change lanes, look at your rearview mirror. Glance behind to check your blind spots. Always signal your lane changes. Before passing another vehicle, keep in mind the points listed below.

### How to pass

- Decide if you really need to pass.
- Decide if you can pass safely without speeding.
- Make sure you have kept a safe following distance. Do not tailgate.
- Check traffic ahead and behind.
- Watch for signs and pavement markings to make sure you are permitted to pass.
- Signal your lane change.
- Tap your horn to signal the driver ahead, except in a business or residential zone.

- Signal your return to the right lane.
- Return to the right lane when well ahead of the vehicle you are passing. When you can see the car you passed in your inside rearview mirror, it is a good indication that it is safe to return to the right lane.
- Cancel your turn signal.
- Resume normal speed after passing.

## When someone passes you

When a driver behind you passes, be careful. Be sure you are in your proper lane. You should slow down to make it easier to be passed. Do not return to your normal speed until the passing vehicle is well ahead of you.



## Following distances

Tailgating (driving too close to the vehicle in front) is a common cause of accidents in New Jersey. If a car ahead stops suddenly, you should have enough space to stop in time. Tailgating can cause a series of rear-end collisions when many cars are too close together.

While keeping the proper following distance in traffic, you should also know the condition of your brakes. Test them often. Make sure of the distance it might take to stop. This is very important on wet roads and where there is snow or ice.

## One car length method

Although there is no perfect rule for following distance, the rule of thumb most often used is to keep one car length back (about 20 feet) for each ten miles per hour of speed. At high speeds or in bad weather, increase your following distance.

## Minimum safe following distance (car lengths)

| Road condition | 20 mph | 30 mph | 40 mph | 50 mph |
|----------------|--------|--------|--------|--------|
| Ideal          | 2      | 3      | 4      | 5      |
| Wet pavement   | 4      | 6      | 8      | 10     |
| Gravel         | 4      | 6      | 8      | 10     |
| Packed snow    | 6      | 9      | 12     |        |
| Ice            | 12     | 18     |        |        |

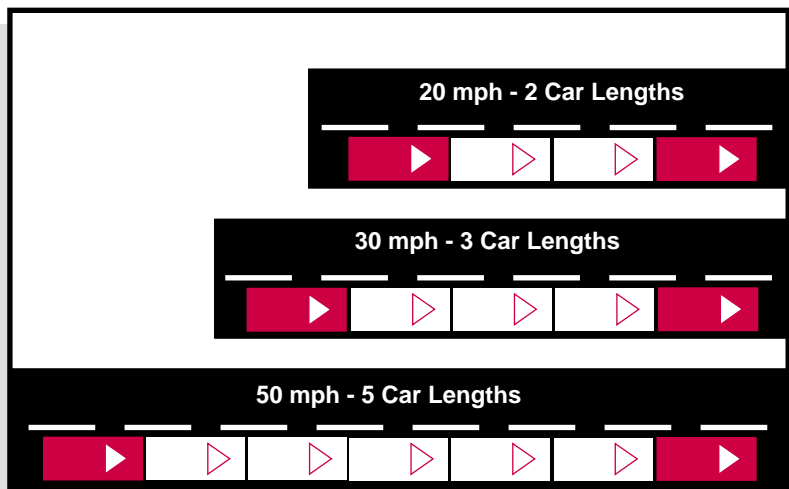
## Two-second rule

Since most people have trouble judging distances, the two-second rule may be easier to use. It is usable at any speed.

- Choose some fixed object ahead of the car in front of you. The object may be a sign or a tree. Make sure the object you pick does not distract your attention from driving.

- As the car in front passes the object, begin counting two seconds (one thousand-one, one-thousand-two).
- If it takes at least two seconds before you pass the object, you should have enough distance for a sudden stop.

The two-second rule takes into account your speed and the speed of the car in front. Try the rule while driving. It can help you develop good judgment for proper following distances.



**Note:** During bad weather, the two-second rule should be increased to three, four or more seconds.

## Road conditions

### Wet roads

On slippery roads, drive more slowly. Stop and turn with care. Keep several extra car lengths from other vehicles. Remember, any quick turn or change in speed can cause a skid. For control on slippery roads, steer as straight as possible. Your brakes should be adjusted so that they pull evenly.

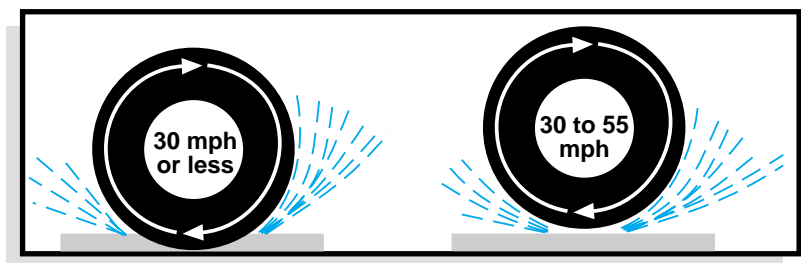
During the first few minutes of rainfall, road surfaces are the most slippery. If you drive through water puddles, test your brakes by pumping them. This will also help dry them out. If the water is deeper than your tire tread, slow down. Slow down if your tires make a sloshing sound and increase the distance between vehicles in front.



## Hydroplaning

At speeds up to 35 mph, most tires make contact with wet road surfaces like a windshield wiper. As the speed increases, the tires start to ride up on a film of water like water skis. This is called hydroplaning. It increases with speeds up to about 55 mph. At this point the tires may be totally up on the water. In a rainstorm, tires may lose all contact with the road at 55 mph. If this is the case, there is no friction to brake, speed up, or corner. A gust of wind, a change of road level, or a slight turn can create a skid.

Try to avoid hydroplaning. Do not drive on bald or badly worn tires. Slow down when there is heavy rain, standing water or slush on the road.



## Snow and ice

Winter driving has special dangers. Longer hours of darkness, fog, rain, snow, sleet, and ice increase driving hazards. The safe driver prepares for them.

Before driving, start the engine and let it warm up. Remove snow and ice from the car, including the roof. New Jersey motorists are liable if ice flies from their vehicles and causes death, injury or property damage. Violators' fines are listed on p. 68. Make sure you have cleaned off the snow and ice well enough so that you will be able to see in all directions. Wait until the heater and defroster are warm. Be sure the windshield washing fluid contains antifreeze. On very cold days, be careful when using windshield washers and wipers at high speeds. Even if the fluid contains antifreeze, the high wind chill can cause icing.

Get the feel of the road. Gently try your brakes while driving slowly to find out just how slippery the road is. Judge how fast you can go and still stop safely. You will skid if you:

- accelerate too quickly
- turn too fast
- brake improperly.

If you have antilock brakes (ABS), keep your foot on the brake pedal and do not pump the brakes. If you have conventional disc and drum brakes, apply firm,

steady pressure on the brake pedal. If you hit the brake too hard, you'll momentarily lock the wheels.

If you do lock the brakes, release your foot from the pedal to relieve brake pressure one or two degrees, then immediately reapply it with slightly less pressure.

Snow tires help driving during the winter months. They give better traction and help in starting and stopping. Snow tires, however, often do not give good traction on ice. On ice and in hard packed or deep snow, tire chains help. In New Jersey, studded snow tires can be used between November 15 and April 1 of each year. (When planning a trip to other states, check their rules on studded tires.)

To start on snow and ice, keep your engine speed low. If your wheels spin, shift to second or low gear. If you get stuck, rock the car back and forth by shifting forward to reverse and back again. Do this slowly. Spinning your wheels may swerve you into deeper snow.

## Reduced visibility

Adverse roadway or weather conditions also require an increase in following distance. Rough road, rain or snow require more time and room to respond. Plan to increase your following distance to six seconds or more.

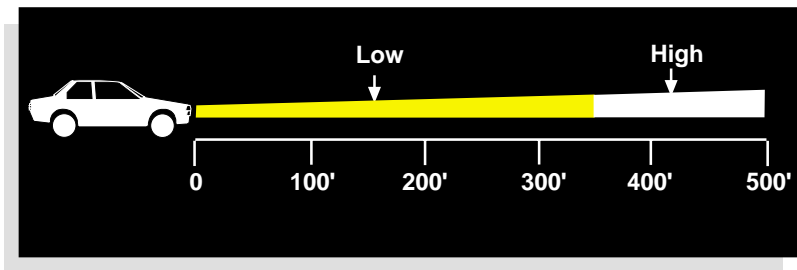
**FROST OR ICE.** Scrape and wipe your windows before starting. Turn on the defroster. If the defroster does not work while driving in freezing rain or snow, stop the car. Close the windows and let the heater warm up the windows.

**FOG.** If you have trouble seeing during the day or night, slow down. Keep your headlights on low beam. Turn on fog lights if you have them. Use pavement markings and other vehicle lights as guide signs.

**SUN GLARE.** Adjust sun visors to shield your eyes without cutting off your view. Hold the steering wheel firmly and slow down. Watch for lane markings. Stop at the roadside if you cannot see well enough to drive.

## Night driving

About 90 percent of driving decisions are based upon what we see. At night, your vision is reduced. Slow down and drive within the range of your



headlights. This is about 500 feet on high beam and about 350 feet on low beam. Be sure you can stop within the distance you can see ahead.

## Night driving tips

During late fall and winter there are more auto fatalities at rush hour according to the Insurance Institute for Highway Safety because night falls early. The Automobile Association of America (AAA) Traffic Safety Department reports that pedestrian fatalities are more frequent between 6 and 7 p.m. With the reduced visibility, drivers should slow down 25 to 30 percent from their daytime speeds.

The U.S. Department of Transportation lists four factors to consider when driving at night:

- the speed you travel in miles per hour (mph);
- your reaction distance or how far you travel before you brake;
- braking distance or how far you will travel as you brake; and
- stopping distance or the total distance you've traveled to stop.

## Driving and stopping at night (in feet)\*

| mph | Reaction distance | Braking distance | Stopping distance |
|-----|-------------------|------------------|-------------------|
| 20  | 44                | 25               | 69                |
| 30  | 66                | 57               | 123               |
| 40  | 88                | 101              | 189               |
| 50  | 110               | 158              | 268               |
| 60  | 132               | 227              | 359               |
| 70  | 154               | 310              | 464               |

\*This table shows the distance the average driver will need to stop while driving at a designated speed using low beams at night. Numbers are based on a driver reaction time of 1.5 seconds. A vehicle travels 88 feet per second at 60 mph. Deceleration is 17.02 feet per second.

Other safety rules for night driving are:

- Drive with headlights on at dusk, night, dawn, on very dark days and whenever weather conditions reduce visibility to less than 500 feet. The law requires that you turn your headlights on when you turn your wipers on.
- Drive more slowly than during daylight.
- Watch for road signs, slow moving or unlit vehicles, bicycles, pedestrians and animals.
- Allow for more safety margins than you would during daylight.



## Study questions for Part 2

1. If you wear a safety belt and shoulder straps, how much better are your chances of surviving a crash?
2. Where are the blind spots in your rearview mirrors?
3. When should you use your horn?
4. How far away from a turn should you signal?
5. What is the speed limit in a business district in New Jersey?
6. What is a good rule for adjusting your speed in traffic?
7. When can you turn right on red?
8. What is the rule for following distances on dry roads?
9. How close to a stop sign are you permitted to park?
10. What does hydroplaning mean?
11. When should you dim your headlights?
12. What is an uncontrolled intersection?
13. What is an acceleration lane?

### Answers

1. Three to four times better than when not wearing either one.
2. On the left and right sides and behind your rear window posts.
3. When passing or to get the attention of other drivers and road users.
4. At least 100 feet.
5. 25 miles per hour.
6. Try to adjust to the flow of traffic.
7. After a full stop when there is no sign stating No Turn On Red, but only after yielding to traffic and pedestrians proceeding on the green light.
8. Keep at least one car length back for each 10 miles per hour of speed.
9. 50 feet.
10. Losing the tire grip on wet roads and riding on a film of water.
11. In city driving and when following or meeting another vehicle within 500 feet.
12. One where there are no traffic signs or signals.
13. An extra lane provided at the entrance to an expressway.